Listing of Claims

1. (ORIGINAL) A power amplifier system comprising:

a plurality of ports each being configured for accepting a power amplifier and each port having an output;

a circuit for combining the port outputs into a combined output signal;

a plurality of output lines;

a controller coupled to the output lines and responsive to the occupancy of one or more of said ports by power amplifiers, said controller causing the combined output signal to be routed to at least one of said output lines based upon the occupancy of said ports by power amplifiers.

2. (ORIGINAL) The system of claim 1 wherein at least two of said output lines have different electrical line characteristics.

3. (ORIGINAL) The system of claim 1 wherein said controller causes the combined output signal to be routed to at least one of said output lines based upon the electrical line characteristics of the output line.

4. (CURRENTLY AMENDED) The system of claim ~~1~~ 2 wherein said electrical line characteristics include impedance characteristics.

5. (ORIGINAL) The system of claim 1 further comprising:

a sensor coupled to at least one of the ports;

said controller being responsive to said sensor to determine the occupancy of the port by an amplifier.

6. (ORIGINAL) The system of claim 5 wherein said sensor comprises:

an insert detection circuit operable for producing a voltage signal when a power amplifier is inserted into the corresponding one said ports.

7. (ORIGINAL) The system of claim 1 wherein the circuit for combining the port outputs is a combiner which produces a summed output signal.

8. (ORIGINAL) The system of claim 1 wherein said controller causes said output signal to be routed to one of said output lines by activating a selected output line and deactivating at least another output line.

10. (CURRENTLY AMENDED) The system of claim ~~9~~ 1 wherein said controller causes said output signal to be routed to one of said output lines by activating a selected output line and deactivating all other output lines.

11. (ORIGINAL) The system of claim 1 further comprising:

a plurality of grounding switches each of which is connected to one of said output lines;

said controller routing said output signal to the at least one of said output lines by opening said grounding switch associated with the appropriate one of said output lines and closing each said grounding switch associated with the remaining output lines.

12. (ORIGINAL) The system of claim 1 further comprising:

a plurality of grounding switches each of which is connected to one of said output lines;

said controller routing said output signal to the at least one of said output lines by closing said grounding switch associated with the appropriate one of said output lines and opening each said grounding switch associated with the remaining output lines.

13. (ORIGINAL) A power amplifier system comprising:

a plurality of ports configured for accepting a power amplifier and each port having an output;

a sensor coupled to each of said ports and generating a control signal corresponding to the occupancy of a port by a power amplifier;

a combiner for combining the port outputs into a summed output signal;

a plurality of output lines coupled to said combiner, each of said output lines having different electrical impedance characteristics;

a controller coupled with the sensor to receive the control signal and also coupled with each of said output lines and operable for routing said summed output signal through one of said output lines based upon said control signal and said electrical impedance characteristics of the output lines.

14. (ORIGINAL) The system of claim 13 further comprising:

a plurality of switches each of which is coupled to one of said output lines;

said controller coupled with said switches and operable for selecting an output route for said summed output signal by opening said switch coupled with one of the output lines and closing switches in the remaining output lines.

15. (ORIGINAL) The system of claim 14 wherein the switches are connected between said output line and a ground contact.

16. (ORIGINAL) The system of claim 13 wherein said ports allow power amplifiers to be inserted or removed without requiring the system to be shut down.

17. (ORIGINAL) The system of claim 13 further comprising:

a variable amplifier coupled to inputs of each of said ports;

said controller also coupled with said variable amplifier for adjusting the amplification level of said variable amplifier based upon control signals from said sensors.

18. (ORIGINAL) The system of claim 17 wherein said controller is operable to decrease the amplification of said variable amplifier when additional power amplifiers are inserted within said ports.

19. (CURRENTLY AMENDED) An power amplifier system comprising:

an input port for receiving an input signal;

a variable amplifier coupled to the input port to amplify said input signal;

a plurality of ports each being configured for accepting a power amplifier and each port having an output;

an insert detection circuit at each port for detecting the insertion and removal of a power amplifier in the port and for generating a respective control signal when a port is occupied;

a controller coupled with said variable amplifier and adjusting the amplification level of said variable amplifier based upon the sensing of a control signal and the occupancy of said ports by power amplifiers.

20. (CURRENTLY AMENDED) The system of claim 19 further comprising ~~a voltage~~ an input signal divider positioned between said variable amplifier and said plurality of ports for dividing said input signal between said plurality of ports.

21. (CANCELED)

22. (ORIGINAL) An power amplifier system comprising:

a plurality of ports each being configured for accepting a power amplifier and each port having an output;

a plurality of insert detection circuits each of which is coupled to said output of a different one of said ports, the insert detection circuit generating a voltage signal when a power amplifier is inserted into a respective one of said ports;

a combiner coupled to said outputs of said ports and producing a summed output signal;

a plurality of output lines coupled to said combiner, each of said output lines having different electrical impedance characteristics;

a controller coupled with said output lines and receiving voltage signals to determine the number of power amplifiers inserted into said ports and routing said summed output signal through one of said output lines based upon the number of power amplifiers and said impedance characteristics of one of said output lines.

23. (ORIGINAL) The system of claim 22 further comprising:

a plurality of grounding switches each of which is coupled to one of said output lines;

said controller coupled to each said grounding switch and selecting an output route for said summed output signal by opening said grounding switch coupled with a selected output line and closing grounding switches coupled with other lines.

24. (ORIGINAL) The system of claim 22 further comprising:

a plurality of grounding switches each of which is coupled to one of said output lines;

said controller coupled to each said grounding switch and selecting an output route for said summed output signal by closing said grounding switch coupled with a selected output line and opening grounding switches coupled with other lines.

25. (ORIGINAL) A variable output apparatus for use in a system with one or more power amplifiers comprising:

a combiner coupled to one or more power amplifiers, said combiner producing a summed output signal;

a plurality of output lines coupled to said combiner wherein each of said output lines has different electrical line characteristics; and

a router coupled to each of said output lines, the router operable to route said summed output signal to at least one of said output lines with the appropriate electrical line characteristics based on the number of power amplifiers coupled to said combiner.

26. (ORIGINAL) The system of claim 25 wherein said electrical line characteristics include impedance characteristics.

27. (ORIGINAL) The system of claim 25 wherein said router routes said summed output signal to at least one of said output lines by activating a selected output line and deactivating other output lines.

28. (ORIGINAL) A variable output apparatus for use in a system with one or more power amplifiers comprising:

a combiner coupled to one or more power amplifiers, said combiner producing a summed output signal;

a plurality of output lines coupled to said combiner wherein each of said output lines has different electrical line characteristics; and

a plurality of grounding switches coupled to said output lines;

a controller coupled to each of said output lines, the controller operable to route said summed output signal to at least one of said output lines by one of opening and closing said grounding switch coupled with a selected output line and one of opening and closing grounding switches coupled with other output lines.

29. (ORIGINAL) The apparatus of claim 28 wherein said controller is operable to route the summed output signal to at least one of said output lines based on the number of power amplifiers coupled to said combiner.

30. (ORIGINAL) The apparatus of claim 28 further comprising a length of transmission line coupled between said grounding switches and their respective output lines.

31. (ORIGINAL) The apparatus of claim 30 wherein said length of transmission line is a quarter wavelength section of line.

32. (ORIGINAL) The apparatus of claim 30 wherein said length of transmission line is a half wavelength section of line.

33. (ORIGINAL) A method for amplifying a signal comprising:

providing a plurality of ports each having an output and configured for accepting a power amplifier;

combining said outputs of each of said ports to create a summed output signal;

providing a plurality of output lines for receiving said summed output signal, each of said output lines having different electrical line characteristics; and

determining the occupancy of said ports by power amplifiers and routing said summed output signal to a selected one of said output lines with the appropriate electrical line characteristics.

34. (ORIGINAL) The method of claim 33 wherein said electrical line characteristics include impedance characteristics.

35. (ORIGINAL) The method of claim 33 wherein said routing step comprises:

activating said selected one of said output lines for routing said summed output signal; and

deactivating other output lines.

36. (ORIGINAL) The method of claim 33 wherein said routing step comprises:

one of opening and closing a grounding switch coupled to said selected one of said output lines for routing said summed output signal; and

one of opening and closing a grounding switch in other output lines.

37. (ORIGINAL) A method for amplifying a signal comprising:

providing a plurality of ports each having an output and configured for accepting a power amplifier;

combining said outputs of each of said ports to create a summed output signal;

providing a plurality of output lines for receiving said summed output signal, each of said output lines having different impedance characteristics;

determining the occupancy of said ports by power amplifiers and routing said summed output signal to one of said output lines based upon the occupancy of said ports by power amplifiers and said impedance characteristics of one of said output lines.

38. (ORIGINAL) The method of claim 37 wherein said routing step comprises:

activating said selected one of said output lines for routing said summed output signal; and

deactivating other output lines.

39. (ORIGINAL) The method of claim 37 wherein said ports include respective inputs, the method further comprising amplifying an input to a respective port and varying the amplification level based upon the occupancy of said ports by power amplifiers.

40. (ORIGINAL) The method of claim 39 further comprising decreasing the amplification level the greater the number of ports occupied by power amplifiers.

41. (CURRENTLY AMENDED) A method for amplifying a signal comprising:

providing a plurality of ports each having an input and an output and configured for accepting a power amplifier;

determining the occupancy of said ports by power amplifiers by insert detection circuits at the ports, the insert detection circuits generating a respective control signal when the port is occupied;

amplifying an input to a respective port and varying the amplification level based upon the existence of a control signal and the occupancy of said ports by power amplifiers.

42. (ORIGINAL) A method for amplifying a signal comprising:

providing a plurality of ports each having an output and configured for accepting a power amplifier;

combining said outputs of each of said ports to create a summed output signal;

providing a plurality of output lines for receiving said summed output signal, each of said output lines having different electrical line characteristics; and

determining the occupancy of said ports by power amplifiers and activating a selected one of said output lines for routing said summed output signal to the selected one of said output lines with the appropriate electrical line characteristics.

43. (ORIGINAL) The method of claim 42 further comprising deactivating other output lines.

44. (ORIGINAL) The method of claim 42 further comprising activating a selected one of said output lines by one of opening and closing a grounding switch coupled to said selected one of said output lines.

45. (ORIGINAL) The method of claim 44 wherein a length of transmission line is coupled between said grounding switch and said output line.

46. (ORIGINAL) The method of claim 45 wherein said length of transmission line is a quarter wavelength section of line.

47. (ORIGINAL) The method of claim 45 wherein said length of transmission line is a half wavelength section of line.